

What is claimed is:

1. A driving circuit of a liquid crystal display device, having a switching element and liquid crystal capacitance, at respective crossover points between a plurality of gate lines and a plurality of source lines, said driving circuit comprising:

a gradation voltage generation circuit for feeding a plurality of voltages higher than a predetermined potential and a plurality of voltages lower than the predetermined potential;

a source line output part for sending out outputs of the gradation voltage generation circuit to the respective source lines such that odd numbered columns and even numbered columns of the plurality of the source lines, respectively, have potentials based the predetermined potential, having polarities opposite to each other;

first shorting means for shorting the odd numbered columns of the source lines with each other;

second shorting means for shorting the even numbered columns of the source lines with each other;

third shorting means for shorting the odd numbered columns of the source lines with the even numbered columns of the source lines; and

fourth shorting means for shorting a first voltage higher than the predetermined potential, among the plurality of the voltages generated by the gradation voltage generation circuit, and a second voltage lower than the predetermined potential, among the plurality of the voltages generated by the gradation voltage generation circuit, with the odd numbered columns of the source lines and the even numbered columns of the source lines, respectively, after switching over between the first voltage and second voltages in a predetermined cycle.

2. A driving circuit of a liquid crystal display device, according to claim 1, wherein the switching over in the predetermined cycle means that polarities of the source lines in the odd numbered columns and the even numbered columns, respectively, are reversed once every plural times.

3. A driving circuit of a liquid crystal display device, according to claim 1, wherein at the outset of writing to the liquid crystal capacitance,

the fourth shorting means separate outputs of the source line output part from the source lines, and depending on a next shifting polarity of the source lines, cause the voltages generated by the gradation voltage generation circuit, having the same polarity as the next shifting polarity, to be shorted.

4. A driving circuit of a liquid crystal display device, according to claims 1, wherein if the next shifting polarity of the source lines is opposite to a preceding polarity, shorting is executed in two stages by use of the third shorting means and fourth shorting means.

5. A driving circuit of a liquid crystal display device, according to claim 4, wherein the shorting in the two stages is implemented first by shorting with the third shorting means, and subsequently, by shorting with the fourth shorting means.

6. A driving circuit of a liquid crystal display device, according to claim 1, wherein feed voltage adjusting means are provided between the gradation voltage generation circuit and the fourth shorting means.

7. A driving circuit of a liquid crystal display device, comprising:

a switching element and liquid crystal capacitance, provided at respective crossover points between a plurality of gate lines and a plurality of source lines;

a gradation voltage generation circuit for feeding a plurality of voltages higher than a predetermined potential and a plurality of voltages lower than the predetermined potential; and

a source line output part for sending out outputs of the gradation voltage generation circuit to the source lines such that the source lines adjacent to each other have potentials based the predetermined potential, having polarities opposite to each other,

wherein the source lines are shorted to a desired voltage selected from among the voltages generated by the gradation voltage generation circuit, and subsequently, the polarity of voltages of the source lines, at the predetermined potential, is enabled to shift to the same polarity as that of the desired voltage selected.

8. A driving circuit of a liquid crystal display device, according to claim 7, wherein the predetermined potential is a common electrode

potential.

9. A driving circuit of a liquid crystal display device, according to claim 7, wherein the desired voltage selected is the voltage generated by the gradation voltage generation circuit, having the same polarity as a next shifting voltage polarity of the source lines.

10. A driving circuit of a liquid crystal display device, according to claim 7, wherein the desired voltage selected is a voltage among the voltages generated by the gradation voltage generation circuit, based on the predetermined potential, at either of two potentials having polarities opposite to each other, and closest to the predetermined potential.

11. A method of driving a driving circuit of a liquid crystal display device, having a switching element and liquid crystal capacitance, at respective crossover points between a plurality of gate lines and a plurality of source lines, for outputting voltages generated by a gradation voltage generation circuit to the source lines through the intermediary of a source line output part, comprising the steps of:

separating outputs of the source line output part from the source lines at the outset of writing to the liquid crystal capacitance; and

causing desired voltages generated by the gradation voltage generation circuit to be shorted to the source lines after shorting the source lines with each other;

wherein writing to the liquid crystal capacitance is subsequently executed by connecting the outputs of the source line output part to the source lines.

12. A method of driving a driving circuit of a liquid crystal display device, according to claim 11, wherein the shorting the source lines with each other comprises three varieties including shorting of odd numbered columns of the source lines with each other, shorting of even numbered columns of the source lines with each other, and shorting of all the source lines in the odd numbered columns with all the source lines in the even numbered columns.

13. A method of driving a driving circuit of a liquid crystal display device, according to claim 11, wherein the gradation voltage generation

circuit generates the voltages based on a common electrode potential, having either positive polarity or negative polarity, and the desired voltages generated by the gradation voltage generation circuit are either a voltage having the positive polarity, and closest to the common electrode potential or a voltage having the negative polarity, and closest to the common electrode potential.

14. A method of driving a driving circuit of a liquid crystal display device, according to claim 13, wherein for shorting of the desired voltages generated by the gradation voltage generation circuit to the source lines, use is made of the voltage having the positive polarity, and closest to the common electrode potential or the voltage having the negative polarity, and closest to the common electrode potential depending on the next shifting polarity of the source lines.

15. A method of driving a driving circuit of a liquid crystal display device, according to claim 14, wherein use is made of the desired voltage selected voltage generated by the gradation voltage generation circuit, having the same polarity as the next shifting polarity of the source lines.